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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/801,298	03/07/2001	Michael J. Mahoney	705441US1RAF	3807

24938 7590 06/05/2009

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EXAMINER	
FRENEL, VANEL	

ART UNIT	PAPER NUMBER
3687	

MAIL DATE	DELIVERY MODE
06/05/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MICHAEL J. MAHONEY, ROGER A. RONDOT, BRIAN L. HALLIDAY, and JOSEPH B. CONNOLLY

Appeal 2008-003169
Application 09/801,298
Technology Center 3600

Decided: [1] June 5, 2009

Before HUBERT C. LORIN, ANTON W. FETTING, and BIBHU R. MOHANTY, *Administrative Patent Judges.*

FETTING, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

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[1] The two month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

Michael J. Mahoney, Roger A. Rondot, Brian L. Halliday, and Joseph B. Connolly (Appellants) seek review under 35 U.S.C. § 134 of a non-final rejection of claims 1-18, the only claims pending in the application on appeal.

We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b) (2002).

We AFFIRM.

The Appellants invented a way for user-friendly computer-implemented vehicle repair claim processing. Repair data is received related to repair of a vehicle to which repair claim expert rules determine at least one response. The repair claim expert rules include repair claim-related premises and repair claim-related actions. At least one of the repair claim-related premises uses the received repair claim data to determine whether a preselected repair claim-related action should be executed (Specification 2:15-23).

An understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced below [bracketed matter and some paragraphing added].

> 1. A computer-implemented vehicle repair claim processing method having a computer system, comprising the steps of:
>
> [1] receiving
>
> with the computer system
>
> repair claim data related to repair era vehicle;
>
> [2] having the computer system determine
>
> at least one response to the input repair claim data
>
> based upon the received input repair claim data

by using expert rules stored in a knowledge based system of the computer system,

said repair claim expert rules including

repair claim-related premises and

repair claim-related actions,

wherein the computer system

uses at least one of the repair claim-related premises

to determine whether a preselected repair claim-related action should be executed

based on the received repair claim data and

generates a claim-related response

based on said preselected repair claim-related action, [sic ;] and

[3] having the computer system make said expert rules accessible

by a user

in a high level computer expression format.

This appeal arises from the Examiner's Non-Final Rejection, mailed October 19, 2006. The Appellants filed an Appeal Brief in support of the appeal on March 8, 2007. An Examiner's Answer to the Appeal Brief was mailed on July 17, 2007. A Reply Brief was filed on September 13, 2007.

PRIOR ART

The Examiner relies upon the following prior art:

Abdel-Malek	US 6,959,235 B1	Oct. 25, 2005
Sampath	US 6,892,317 B1	May 10, 2005

REJECTION

Claims 1-18 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Abdel-Malek and Sampath.

ISSUES

The issue of whether the Appellants have sustained their burden of showing that the Examiner erred in rejecting claims 1-18 under 35 U.S.C. § 103(a) as unpatentable over Abdel-Malek and Sampath turns primarily on whether either reference is directed to claim processing; Abdel-Malek processes claims; Abdel-Malek's describes expert rules; the art discloses making expert rules accessible in a high level computer expression format; and Sampath processes action requests for repair claims.

FACTS PERTINENT TO THE ISSUES

The following enumerated Findings of Fact (FF) are believed to be supported by a preponderance of the evidence.

Facts Related to Claim Construction

01. The disclosure contains no lexicographic definition of "repair claim."

02. The ordinary and customary meaning of "claim" is a demand for something as rightful or due.[2] Accordingly a repair claim is a demand for repair as rightful or due.

03. The disclosure contains no lexicographic definition of "processing."

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[2] *American Heritage Dictionary of the English Language* (4th ed. 2000).

04. The ordinary and customary meaning of "processing" is the gerund of the verb "process" which means to move along in or as if in a procession.

05. The disclosure contains no lexicographic definition of "expert rule."

06. The ordinary and customary meaning of "rule" within the context of a system applying rules is a usual, customary, or generalized course of action or behavior or a generalized statement that describes what is true in most or all cases. Thus an expert rule is a general course of action or statement of what is true in most cases devised by one with expertise in the matter.

07. The disclosure contains no lexicographic definition of "high level."

08. The ordinary and customary meaning of "high level" is being at an elevated level in rank or importance, or in a computer science context, relating to, or being a language, such as BASIC or Pascal, in which each instruction or statement corresponds to several instructions in machine language.

Abdel-Malek

09. Abdel-Malek is directed to receiving repair recommendations and related information from a central diagnostic and repair service center at a remote location, for repairing, for instance, a railroad locomotive (Abdel-Malek 1:9-11).

10. Abdel-Malek describes providing maintenance and repair information to the technician in real time at the site where the item for repair is located. There is a communications link between the remote site, where

the locomotive is parked, and a centrally-located monitoring and diagnostic service center (MDSC). A plethora of information is stored in the MDSC and readily accessible by the technician at the remote site. A detailed record of the repair event is captured for subsequent validation of the repair's efficacy and for maintenance of a complete locomotive repair history. Abdel-Malek provides direct access to diagnosis and repair recommendations and documentation for a specific locomotive road number. These repair recommendations are generated at the monitoring and diagnostic service center by experts in locomotive trouble shooting and repair. A portable unit displays information related to execution of the repair, including individual repair steps and diagnostic tasks that may be necessary to isolate certain locomotive subsystems, to either eliminate or confirm a suggested repair methodology. The expert recommendations are supplemented by repair information, such as schematics, maintenance manuals, and other technical documentation stored at the MDSC and made available at the portable unit (Abdel-Malek 2:31-61).

11. Abdel-Malek describes how repair parts can be ordered and tracked and warranty information can be accessed and warranty claims submitted. The availability of all this information at track side allows the repair process to be moved from the repair shop to run-through or service track sites. The portable unit communicates with the locomotive on-board monitoring systems for downloading or uploading fault and parametric operational data collected during operation (Abdel-Malek 3:1-14).

12. Abdel-Malek describes how the technician has access to a plethora of repair, diagnostic, and operational information needed to trouble shoot locomotive problems and undertake the necessary repairs. The portable unit downloads repair recommendations generated by analysis software. From the portable unit, the technician also has access to repair resources, such as repair manuals, field modification instructions, schematics, block diagrams, etc. Special software tools related to the repair task arc also available at the portable unit. The portable unit allows easy and seamless integration of the repair recommendation with the railroad's work order system and provides parts ordering and parts tracking via communications with the parts requisition center (Abdel-Malek 4:62 – 5:11).

13. Abdel-Malek describes using an on-board monitoring system for monitoring and recording data related to various operational aspects. The on-board monitoring system identifies faulty components and provides fault codes for use by the repair technician in diagnosing the problem. This operational information is extremely important in the diagnostic and repair process. In some cases, depending upon the nature of the fault or anomalous condition, the on-board monitor automatically transmits this information back to the MDSC, where a repair recommendation is formulated and then made available to the portable unit (Abdel-Malek 6:25-51).

14. Abdel-Malek describes how the repair status subsystem creates an entry in the locomotive history database for an instantiated recommendation. The recommendation is compiled, which involves pulling together all the repair steps, web pages, technical documents,

and data entry items for the recommendation and placing them in the recommendation queue. A top level web page is generated for the recommendation. The top level page contains the case number, railroad case number (if one is assigned), date of the recommendation, due date for the repair, locomotive road number, service yard or service shop where the repair is to be performed, and a brief overview of the repair. A web page listing all of the repair steps is also generated. Each step will prompt the technician to enter data as the repair proceeds. If the repair status subsystem already contains information about the repair, because the repair was partially completed and reported in a prior session, the data entry objects already in the repair status subsystem will appear as the initial values in the data collection objects (Abdel-Malek 18:56 – 19:18).

15. Abdel-Malek describes how, when the repair expert defines a repair step in a general repair recommendation, he selects the repair action from a predefined list of coded repair steps (Abdel-Malek 21:11-14).

16. Abdel-Malek describes how its technical documentation is indexed. These indexes provide quick identification of document subsets. For example, the indices can support identification of all documentation pages related to a specific part number, a specific part name, or a repair process name. The stored documents are: parts catalogs, wiring and parts schematics, maintenance manuals, fault analysis pages, back shop manuals, field modifications instructions, training instructions, part identification animations, and assembly animations (Abdel-Malek 21:31-45).

Sampath

17. Sampath is directed to interconnecting electronic systems to a diagnostic server which receives data that can be as rudimentary as machine operational status to highly complex data that could, for example, indicate a particular component failure or be used for future failure prediction analyses, or for scheduling of routine maintenance. This data allows for the determination of system faults and provides for the initialization of corrective or repair action (Sampath1:36-50).

18. Sampath describes prediction information as any status information which is pertinent to determining whether an action should be taken to avoid a particular impending outcome. The prediction and diagnostic analysis can be based on a variety of analysis techniques including, but not limited to, threshold analysis, statistical analysis, signature analysis, trend analysis, timing analysis, event sequence analysis, pattern analysis, image processing techniques, quantitative and qualitative state estimation techniques, model based diagnostic technologies, look-up tables, neural network based analysis, fuzzy logic based analysis, a bayesian network, a causal network, a rule based system, expert systems and other reasoning mechanisms. In the case of threshold analysis, the prediction/diagnostic circuit can compare the device status information to status information such as threshold values, event counts, error counts, fault counts, or other fixed values which either indicate a failure or trigger a further detailed prognostic analysis. This stored status information can be used in combination with the current machine status information to aid in the prognostic analysis. The prediction/diagnostic

circuit can also use a combination of fixed comparisons and data pooling to arrive at a given conclusion (Sampath 6:17-57).

19. Sampath describes how a repair planning circuit determines an appropriate action in response to the received status information and routes the action request to the appropriate service, repair, or supplier (Sampath 6:58-65).

20. Sampath describes how an action request can be routed to an Original Equipment Manufacturer (OEM) service provider, if the nature of the service request requires a highly specialized technician or, perhaps, if the action request can be satisfied by a warranty repair (Sampath8:48-52).

21. Sampath describes how it may be implemented as software executed on a programmed general purpose computer, a special purpose computer, a microprocessor, or the like. In this case, the methods and systems of this invention can be implemented as a routine embedded on a personal computer such as a Java.RTM. or CGI script, as a resource residing on a server or graphics workstation, as a routine embedded in a dedicated diagnosis and failure prediction control system, or the like (Sampath13:19-28).

Facts Related To The Level Of Skill In The Art

22. Neither the Examiner nor the Appellants has addressed the level of ordinary skill in the pertinent arts of systems analysis and programming, diagnostic systems design, and repair claim administrative systems design. We will therefore consider the cited prior art as representative of the level of ordinary skill in the art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) ("[T]he absence of specific findings on the

level of skill in the art does not give rise to reversible error 'where the prior art itself reflects an appropriate level and a need for testimony is not shown'") (quoting *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F.2d 158, 163 (Fed. Cir. 1985).

Facts Related To Secondary Considerations

23. There is no evidence on record of secondary considerations of non-obviousness for our consideration.

PRINCIPLES OF LAW

Claim Construction

During examination of a patent application, pending claims are given their broadest reasonable construction consistent with the specification. *In re Prater*, 415 F.2d 1393, 1404-05 (CCPA 1969); *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1369 (Fed. Cir. 2004).

Limitations appearing in the specification but not recited in the claim are not read into the claim. *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369 (Fed. Cir. 2003) (claims must be interpreted "in view of the specification" without importing limitations from the specification into the claims unnecessarily)

Although a patent applicant is entitled to be his or her own lexicographer of patent claim terms, in *ex parte* prosecution it must be within limits. *In re Corr*, 347 F.2d 578, 580 (CCPA 1965). The applicant must do so by placing such definitions in the specification with sufficient clarity to provide a person of ordinary skill in the art with clear and precise notice of the meaning that is to be

construed. *See also In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994) (although an inventor is free to define the specific terms used to describe the invention, this must be done with reasonable clarity, deliberateness, and precision; where an inventor chooses to give terms uncommon meanings, the inventor must set out any uncommon definition in some manner within the patent disclosure so as to give one of ordinary skill in the art notice of the change).

Obviousness

A claimed invention is unpatentable if the differences between it and the prior art are "such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. § 103(a) (2000); *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007); *Graham v. John Deere Co.*, 383 U.S. 1, 13-14 (1966).

In *Graham*, the Court held that the obviousness analysis is bottomed on several basic factual inquiries: "[(1)] the scope and content of the prior art are to be determined; [(2)] differences between the prior art and the claims at issue are to be ascertained; and [(3)] the level of ordinary skill in the pertinent art resolved." 383 U.S. at 17. *See also KSR*, 550 U.S. at 406. "The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* at 416.

"When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability." *Id.* at 417.

"For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve

similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill." *Id.*

"Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *Id.* at 420.

ANALYSIS

Claims 1-18 rejected under 35 U.S.C. § 103(a) as unpatentable over Abdel-Malek and Sampath.

The Appellants argue that independent claims 1 and 10 have similar limitations and accordingly argue those two claims together. Accordingly, we treat these claims as a group, and we select claim 1 as representative of the group. 37 C.F.R. § 41.37(c)(1)(vii) (2007).

The Examiner found that Abdel-Malek described all the limitations of claim 1 except for limitations [2a] and [2b], for which the Examiner applied Sampath (Answer 3-5). The Appellants contend (1) that neither reference is directed to claim processing, but only to diagnoses (Br. 10:Bottom ¶ - 11: top ¶); (2) Abdel-Malek does not process claims, but only submits claims and only addresses repair recommendations rather than repair claims (Br. 11Second full ¶ - 12:Top ¶); (3) Abdel-Malek's repair resources are not expert rules (Br. 12:First full ¶); (4) making a repair manual or special software related to a repair task available does not disclose making expert rules accessible in a high level computer expression format (Br. 12:First full ¶); and (5) Sampath processes action requests for service rather than repair claims (Br. 12:Second full ¶).

We disagree with the Appellants. Both of the first two arguments contend that neither reference pertains to repair claim processing. We must first construe what this limitation means. The Specification provides no lexicographic definition (FF 01 & 03). The customary meaning of repair claim is a demand for repair as rightful or due (FF 02) and the customary meaning of processing is moving along in or as if in a procession (FF 04). Thus repair claim processing is moving demands for repair along.

Having construed the limitation at issue, we next determine whether either reference describes moving demands for repair along. Abdel-Malek is directed to receiving repair recommendations for repairing such items as locomotives (FF 09). To do so, Abdel-Malek provides maintenance and repair information to the technician in real time at the site where the item for repair is located. A detailed record of the repair event is captured for maintenance of a complete locomotive repair history. Repair recommendations are generated at the monitoring and diagnostic service center by experts in locomotive trouble shooting and repair, and displayed for execution of the repair, including individual repair steps and diagnostic tasks that may be necessary to isolate certain locomotive subsystems, to either eliminate or confirm a suggested repair methodology (FF 10). Repair parts are ordered and tracked and warranty information can be accessed and warranty claims submitted (FF 11). Sampath routes an action request to an Original Equipment Manufacturer (OEM) service provider, if the action request can be satisfied by a warranty repair (FF 20). Each of these actions and capabilities is directed to moving along a repair. Each repair is under the control of an administrative system that guides the repair. Such an administrative system necessarily instantiates each repair record initially, as explicitly described by Abdel-Malek (FF 14) and such a record documents a demand that the repair take

place. Thus, both references describe moving demands for repair along, and therefore describe repair claim processing. We find that the Appellants' contentions are not commensurate with the breadth of the claim limitation.

As to the third argument, we must again first construe the limitation at issue, *viz* "expert rule." Again, there is no lexicographic definition in the Specification (FF 05). We find that the usual and customary meaning of an expert rule is a general course of action or statement of what is true in most cases devised by one with expertise in the matter (FF 06). So the issue is whether Abdel-Malek describes using general courses of action or statements of what is true in most cases devised by those with expertise stored in a knowledge based system.

Abdel-Malek describes providing maintenance and repair information to the technician in real time at the site where the item for repair is located. A plethora of information is stored in a system (the MDSC) and includes repair recommendations generated at the monitoring and diagnostic service center by experts in locomotive trouble shooting and repair. The expert recommendations are supplemented by repair information, such as schematics, maintenance manuals, and other technical documentation stored at the MDSC (FF 10). Such repair recommendations are generated by analysis software (FF 12). An on-board monitoring system identifies faulty components and provides fault codes for use by the repair technician in diagnosing the problem. The on-board monitor automatically transmits information back to the MDSC, where a repair recommendation is formulated and then made available to the portable unit (FF 13). Abdel-Malek describes how the repair status subsystem creates an entry in the history database for an instantiated recommendation. The recommendation is compiled, which involves pulling together all the repair steps, web pages, technical documents, and data entry items for the recommendation and placing them in the

recommendation queue (FF 14). When a repair expert defines a repair step in a general repair recommendation, he selects the repair action from a predefined list of coded repair steps (FF 15). Thus, we find that Abdel-Malek describes formulating repair steps by those with expertise for entry into a database. Such steps show a technician how to trouble shoot and repair and are formulated in terms of coded repair steps. Thus, we find that Abdel-Malek does use general courses of action or statements of what is true in most cases devised by those with expertise stored in a knowledge based system. In addition, Sampath explicitly describes using rule based systems and expert systems (FF 18).

As to the fourth argument, we must again first construe the limitation at issue, *viz* "high level." Again, there is no lexicographic definition in the Specification (FF 07). We find that the usual and customary meaning of high level is elevated level in rank or importance, or in a computer science context, relating to, or being a language, such as BASIC or Pascal, in which each instruction or statement corresponds to several instructions in machine language (FF 08). So the issue is whether the art describes making expert rules accessible by a user in a computer language expression format in which each instruction or statement corresponds to several instructions in machine language. We find that Sampath describes how it may be implemented as software executed and can be implemented as a routine embedded on a personal computer such as a Java.RTM. or CGI script, both of which are languages in which each instruction or statement corresponds to several instructions in machine language. Also, Abdel-Malek describes how, when the repair expert defines a repair step in a general repair recommendation, he selects the repair action from a predefined list of coded repair steps (FF 15), which thus makes expert rules accessible by a user in an elevated level format.

The last Appellants' argument is that Sampath processes action requests for service rather than repair claims. We found in response to the first argument *supra* that both references describe repair claim processing. Again, the Appellants' argument is not commensurate with the breadth of the claim.

Thus, we find none of the arguments persuasive. The Appellants rely on their arguments for the patentability of the independent claims for the dependent claims, and therefore the arguments are unpersuasive as to the dependent claims as well.

CONCLUSIONS OF LAW

The Appellants have not sustained their burden of showing that the Examiner erred in rejecting claims 1-18 under 35 U.S.C. § 103(a) as unpatentable over Abdel-Malek and Sampath.

DECISION

To summarize, our decision is as follows:

- The rejection of claims 1-18 under 35 U.S.C. § 103(a) as unpatentable over Abdel-Malek and Sampath is sustained.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

JRG

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